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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/415,679	10/08/1999	XI CHEN	15962-0012	5155

7590 05/13/2005  
SQUIRE, SANDERS & DEMPSEY  
14TH  
8000 TOWERS CRESCENT DRIVE  
TYSONS CORNER, VA 22182-2700

EXAMINER

CHANG, EDITH M

ART UNIT	PAPER NUMBER
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2637

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 09/415,679	Applicant(s) CHEN, XI	
	Examiner Edith M. Chang	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 09 December 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Arguments/Remarks*

1. Applicant's arguments filed on December 07, 2004 have been fully considered but they are not persuasive. The rejection of claims 2-23 is upheld.

Argument: Applicant argues that Crayford and Wakeley, when viewed alone or when combined, fail to disclose or suggest the elements of any of presently pending claims. Therefore, the cited references fail to provide the critical and unobvious advantages discussed above (discussed in the specification).

Response: Crayford teaches a transceiver in FIG.-1 to 3 comprising a transmitter subcircuit (37'TX) and a receiver subcircuit (37'RX); the transmitter transmits a pulse (as shown in FIG.-3, which is not conform to the industry-standard pulse MLT3 for indicate data present/power-on) to indicate a status of the link being in place (column 3 lines 44-51) in a sleep mode (in which the transmitter powers down, column 2 lines 18-22) wherein the transmitter or the receiver is powered separately (column 4 lines 24-27) as cited in the claims.

Wakeley et al. teaches a transceiver (FIG.1 or FIG.3-6) comprising a transmitter and a receiver, the transmitter and receiver powered separately (step 106/108 FIG.2), and using parallel detection (FIG.4, column 3 lines 28-34 using the industry-standard pulse MLT3 idle data packet) for both 100Base-T and 10Base-T legacy devices (column 1 lines 60-65) in FIG.1-2.

Wakeley et al. suggests the establishment to all 10Base-T and 100Base-T (Abstract), hence, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the parallel detection in the physical layer of Crayford's device for the purpose of

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establishing a link between disparate network entities in a Ethernet data network (column 2 lines 55-60). Therefore, the modified/combined Crayford's device with Wakeley et al.'s teaching provides the critical and obvious limitations cited in the claims.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 2-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crayford (US 5404544) in view of Wakeley et al. (US 6198727 B1).

Regarding **claims 2 & 21**, In FIG.-1 to FIG.-3, Crayford discloses a transceiver circuit comprising a transmitter subcircuit/means and a receiving subcircuit/means having its own power supply and means for activation and deactivation (37' & 37a' as separate transmitter/receiver circuit in FIG.-3). In FIG.3 and column 3 lines 44-58, the transmitter subcircuit transmitting the link beat pulse 60 (this is not conform to the MLT-3 pulse) in FIG.3 to indicate a status of the link being in place (a live transceiver) even during sleep (powered-down) mode, and the transmitter subcircuit is active/alive when transmitting (column 2 lines 18-22, lines 34-37), but Crayford does not specify the extension of IEEE 802.3 standard (802.3u) for interoperability in the LAN. However Wakeley et al. teaches using parallel detection (that is idle data packet using the MLT-3 waveform in IEEE 802.3u, section 28.2.3.1, this is the an industry-

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standard pulse) for legacy devices such as 10Base-T devices for link assurance in column 1 lines 50-65, FIG.1 and FIG.2. Through Wakeley et al.'s teaching the transceiver is able to automatically establish the link connection between different network link partners. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the parallel detection in the physical layer of Crayford's device for the purpose of establishing a link between disparate network entities in an Ethernet network (column 2 lines 55-60).

Regarding **claims 3-4 & 11-12**, Crayford discloses the pulse is a link pulse (column 3 lines 47-48, FIG.-2 & -3) and is a minimally powered pulse.

Regarding **claim 5**, the modified/combined Crayford device with Wakeley et al.'s teaching teaches the pulse conforms to the industry-standard pulse (the parallel detection column 1 lines 49-65 '727) once the circuit is in the operating mode that is a signal being received on the receiver.

Regarding **claims 6, 14 & 19**, the modified/combined Crayford device with Wakeley et al.'s teaching teaches the auto-negotiation process (column 3 lines 49-56 '727).

Regarding **claim 7**, Crayford discloses the receiver subcircuit is active/power-on for receiving data (column 2 lines 34-37), but does not specify the receiver having a media independent interface. However Wakeley et al. teach the media independent interface in the LAN layers (18 FIG. 1). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to cooperate the Wakeley et al.'s teaching in Crayford's system for the schematic detail of the LAN OSI reference model and for receiving signal from the network via the interface.

Regarding **claims 8 & 15**, the modified/combined Crayford device with Wakeley et al.'s teaching teaches the receiver upon receiving activity (column 4 lines 24-28 '544) activating the transceiver into power-on mode (column 4 lines 28-30 & 32-36 '544).

Regarding **claims 9 & 16**, the modified/combined Crayford device with Wakeley et al.'s teaching teaches the transceiver in power-down mode powering-down all subcircuits except the transmitter pulse subcircuit (column 2 lines 33-36, column 3 lines 44-48 '544) and the media independent interface subcircuit (column 2 lines 18-22, column 3 lines 48-51 '544).

Regarding **claims 10, 17 & 22-23**, In FIG.-1 to FIG.-3, Crayford discloses a transceiver circuit comprising a transmitter subcircuit/means and a receiving subcircuit/means having its own power supply and means for activation and deactivation (37' & 37a' as separate transmitter/receiver circuit in FIG.-3). In FIG.3 and column 3 lines 44-58, the transmitter subcircuit transmitting the link beat pulse 60 (this is not conform to the IEEE 802.3u pulse) in FIG.3 to indicate a status of the link being in place during sleep (powered-down) mode, and the transmitter subcircuit is active/alive when transmitting (column 2 lines 18-22, lines 34-37), but Crayford does not specify the industry-standard pulse (the extension of IEEE 802.3 standard, 802.3 u) for indicating the data present (power-on) on the established link. However Wakeley et al. teaches using the Multiple Level Fast Link Pluses (column 1 lines 50-65, that is the an industry-standard pulse) for legacy devices such as 10Base-T devices for link assurance in FIG.1 and FIG.2 wherein step 102 & 110 check the established link and step 108 turns on the power. Through Wakeley et al.'s teaching the transceiver is able to automatically establish the link connection between different network link partners. Therefore, at the time of the invention, it would have been obvious to a person of ordinary skill in the art to implement the 10Base-

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T/100Bse-TX assurance technique in the physical layer of Crayford's device for the purpose of establishing a link between disparate network entities in an Ethernet network (column 2 lines 55-60).

The combined/modified Crayford's device with Wakeley et al.'s teaching teaches the media independent interface in the LAN layers (18 FIG. 1, column 1 lines 25-40 '727).

Regarding **claim 13**, the combined/modified Crayford's device with Wakeley et al.'s teaching teaches the pulse conforming to the industry-standard pulse (column 1 lines 49-65 '727).

Regarding **claim 18**, the modified/combined Crayford's device with Wakeley et al.'s teaching teaches the pulse conforming to an industry-standard pulse (column 1 lines 49-55, column 4 lines 37-48 '727).

Regarding **claim 20**, the modified/combined Crayford's device with Wakeley et al.'s teaching teaches the transceiver in power-down mode powering-down all subcircuits except the transmitter pulse subcircuit (column 2 lines 33-36, column 3 lines 44-48 '544) and the media independent interface subcircuit (column 2 lines 18-22, column 3 lines 48-51 '544).

### ***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edith M. Chang whose telephone number is 571-272-3041. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayanti Patel can be reached on 571-272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Edith Chang  
May 9, 2005

TEMESHEX GILBERTINSAE  
PRIMARY EXAMINER

5/11/05